SUPERB

Summer Undergraduate Program In Engineering Research at Berkeley

UNDERGRADUATE RESEARCH IN ENGINEERING

SUPERB SUMMER REU

© COLLEGE OF ENGINEERING
312 MCLAUGHLIN • BERKELEY, CA 94720
Phone 510-643-6443• Fax 510-643-5600

© ELECTRICAL ENGINEERING & COMPUTER SCIENCE
205 CORY HALL • BERKELEY, CA 94720
Phone 510-642-7372 • Fax 510-643-7846

Contents

Program Description

Summer Undergraduate Program in Engineering Research at Berkeley

SUPERB participants spend eight weeks at UC Berkeley during the summer working on exciting ongoing research projects in Engineering. Students who participate explore options for graduate study, gain exposure to the department and research opportunities, and are motivated to pursue graduate study.

Program Overview

Objective:
–To increase diversity in the graduate school pipeline by affirming students' motivation for graduate study and strengthening their qualifications

Strategy:
–Offer talented underrepresented undergraduate engineering students the opportunity to gain research experience by participating in ongoing research with engineering faculty and graduate students
Undergraduate Research
–8-week research project
–Faculty and graduate student mentors
–Written technical reports and oral presentations
Educational Activities
–Expose students to the various research areas at UCB

–Industry Field Trips, tours of research facilities, and research group presentations

Graduate Study Preparation

–Workshops: Graduate application process, fellowship and financial aid information, graduate academic life

–GRE preparation course

Program Goals:

The goal of the Summer Undergraduate Program in Engineering Research at Berkeley (SUPERB) is to provide research opportunities in engineering to students who have been historically underrepresented in the field for reasons of social, cultural, educational or economic barriers. The program provides students with the opportunity to gain research experience by participating in research projects with engineering faculty and graduate students. Upon completion of this program students will be better prepared and motivated to attend graduate school.

SUPERB features regular workshops and seminars on the nature of academic life, standardized test preparation, writing and research skills and graduate school applications. Informal meetings and social events with faculty and graduate students are also offered.

Faculty Mentoring

Each SUPERB student is assigned a faculty mentor to help him or her throughout the research process. SUPERB students join their faculty member's research group, and form collegial relationships with masters and doctoral students. Research groups typically meet weekly. To bring students into the research community quickly and to help their transition, faculty and graduate students often begin communicating directly with the student before they arrive on campus to develop a project.

SUPERB students join their faculty member's research group, and form collegial relationships with masters and doctoral students. Research groups typically meet weekly.

SUPERB students are invited to lab meetings as well as laboratory social events. Students often develop collegial relationships with other faculty, post-docs, and graduate and undergraduate students. These relationships will help them not only attain their immediate research goals, but will serve them well as they move up professionally. Before the poster session, all students are invited to present their work first to their own research group. Students are also exposed to mentoring from faculty outside their laboratory through the informal SUPERB events by faculty throughout the summer.

Students often develop collegial relationships with other faculty, post-docs, and graduate and undergraduate students.

Graduate Mentors

Graduate student mentors provide active day-to-day supervision to SUPERB students. The faculty mentor and the graduate mentor define each project in writing, including milestones for its accomplishment. Projects are designed to introduce students to specific techniques or specialized equipment in their labs. In early June, graduate mentors meet with faculty and the staff coordinator for a mentorship training session. For example, one SUPERB graduate mentor reported, "the student started out doing readings and performing easy tasks, but by the end of the summer she was doing high-end research." Encouraging the progression of more complex research are expectations of the program.

One SUPERB graduate mentor reported, "the student started out doing readings and performing easy tasks, but by the end of the summer she was doing high-end research."

Academic Support: Weekly Meetings

To provide academic support, the SUPERB program plans weekly meetings bringing together all SUPERB participants to develop relationships with faculty. These weekly meetings help to explain the larger context of the research focus and to enhance the individual students' understanding of their projects within the larger research effort. For instance, a Berkeley faculty member discusses "How to Get Started in Research" "Current Research at Berkeley," and "Ethics and Engineering" to name a few. Academic staff members also lead workshops on graduate admissions and applying for financial aid and fellowships. Proximity to Silicon Valley is another advantage of Berkeley's location for SUPERB students.

Eligibility:

The program is open to U.S citizens or permanent residents who are juniors or seniors or to students who have completed some upper division course work in Electrical Engineering and Computer Sciences (EECS), Bioengineering (BIOE), Civil and Environment Engineering (CEE), Material science Engineering (MSE) and/or Mechanical Engineering (ME). A minimum GPA of 3.0 is required with upward trends in grades being preferable.

The program is open to students with or without prior research experience, and students who have not participated in SUPERB previously.

Awards:

Each participant will have a faculty and graduate student mentor who will supervise his or her work and provide guidance.

SUPERB scholars will spend eight weeks on UC Berkeley's campus during the summer to work on a research project in their area of interest. Each participant will have a faculty and graduate student mentor who will supervise his or her work and provide guidance. Participants will receive a $3,750 stipend, double occupancy room and board in university housing, and up to $600 for reimbursement of travel expenses.

HOW TO APPLY:

1. **Online Application**
2. **Statement of Purpose /Resume (a part of the online application)**
3. **Two recommendations (one of which must be from a faculty member)**
4. **A copy of your official academic transcript**

SUPERB-IT program is funded by a grant from the National Science Foundation Research Experiences for Undergraduates (REU) Program, the College of Engineering, and industry funds and is administered by the

EECS Center for Undergraduate Matters and the College of Engineering Center for Underrepresented Engineering Students.

Visit www.coe.berkeley.edu to familiarize yourself with the various Departments in the College of Engineering.

Visit www.coe.berkeley.edu/research/centers.html to familiarize yourself with the College of Engineering Research Centers and Units.

For more information on the SUPERB-IT program in Electrical Engineering and Computer Science you can contact:

SUPERB-IT

Rebecca Brown
University of California, Berkeley
EECS Center for Student Affairs-Undergraduate
205 Cory Hall MC#1770
Berkeley, CA 94720
510-642-7372

http://www.eecs.berkeley.edu/Programs/ugrad/superb/superb.html

For more information on the SUPERB program in Bio, Mechanical, Material Science and Civil Engineering you can Contact:

Beatriz Lopez-Flores
University of California, Berkeley
College of Engineering
312 McLaughlin Hall MC#1702
Berkeley, CA 94720-1702

(510) 642-6443

http://www.coe.berkeley.edu/cues/superb/index.html